

# TX-H1309SW08A-2860V36-02AH90

## PRODUCT SPECIFICATION

### Features:

- ◆ Excellent transiting heat from LED chip operating under 400mA.
- ◆ Provide uniform cross distribution of positive white and warm white dual color scheme, mixed pure.
- ◆ High luminous output.
- ◆ No UV.
- ◆ Encapsulated materials are environmentally certified and meet environmental requirements.

### Chip Material:

- ◆ GaInN

### Emitting Color:

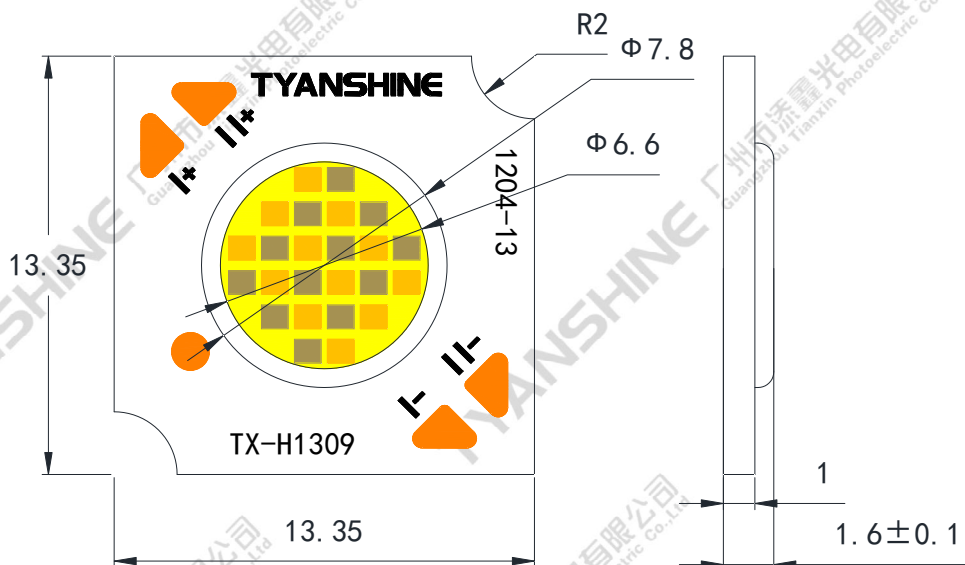
- ◆ White
- ◆ Warm white

### Applications:

- ◆ Commercial lighting
- ◆ General Lighting

|          |                              |          |            |      |         |
|----------|------------------------------|----------|------------|------|---------|
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**Package Dimensions:**



I: warm white II: white

**Notes:**

- 1.All dimensions are in millimeters .
- 2.Tolerances unless otherwise mentioned are  $\pm 0.25\text{mm}$  .

**Code Formats:**

TX-H1309SW08A-2860V36-02AH90

|           |                              |              |        |          |             |          |            |   |      |         |   |     |     |
|-----------|------------------------------|--------------|--------|----------|-------------|----------|------------|---|------|---------|---|-----|-----|
| TX        | —                            | H            | 13     | 09       | SW          | 08       | A          | — | 2860 | V36     | — | 02A | H90 |
| TYANSHINE | —                            | high density | series | watt typ | performance | LES      | texture    | — | CCT  | VOLTs   | — | BOM | Ra  |
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### Absolute Maximum Ratings

| Parameter                               | Symbol | Ratings                            | Unit |
|---|--------|------------------------------------|------|
| Forward Current                         | IF     | 400                                | mA   |
| Reverse Voltage                         | VR     | Not designed for reverse operation | V    |
| Power Dissipation                       | PD     | S                                  | 15   |
|   |        | W                                  | 15   |
|   |        | S+W                                | 15   |
| Junction Temperature                    | Tj     | S                                  | 135  |
|   |        | W                                  | 135  |
| Case Temperature (C)                    | Tc     | 85                                 | °C   |
| Electrostatic Discharge Threshold (ESD) | ESD    | 2000                               | V    |
| DC Withstand voltage test               | Vw     | 1500                               | V    |
| Storage Temperature                     | Tstg   | -30~+100                           | °C   |
| Operation Temperature                   | Topr   | -30~+80                            |      |

**Notes:**

- Specifications are subject to change without notice.
- The data on this specification is for reference only and the actual data is in accordance with the acknowledgment.
- Precautions for ESD:  
STATIC SHIELD Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.

**Electrical Optical Characteristics (Tc=25°C)**

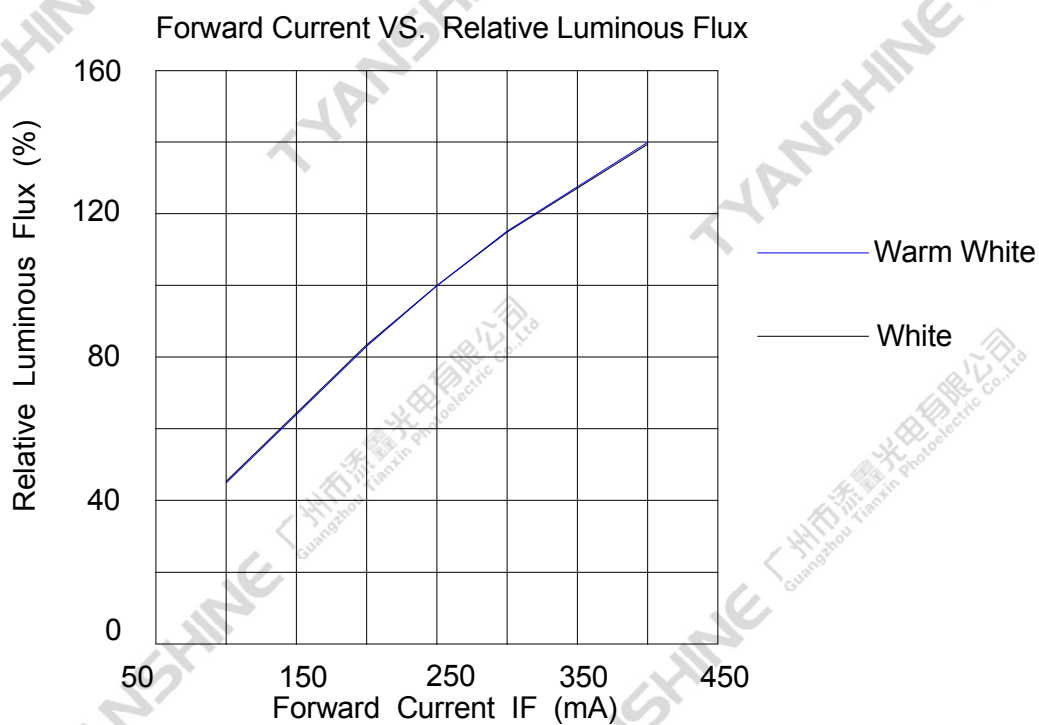
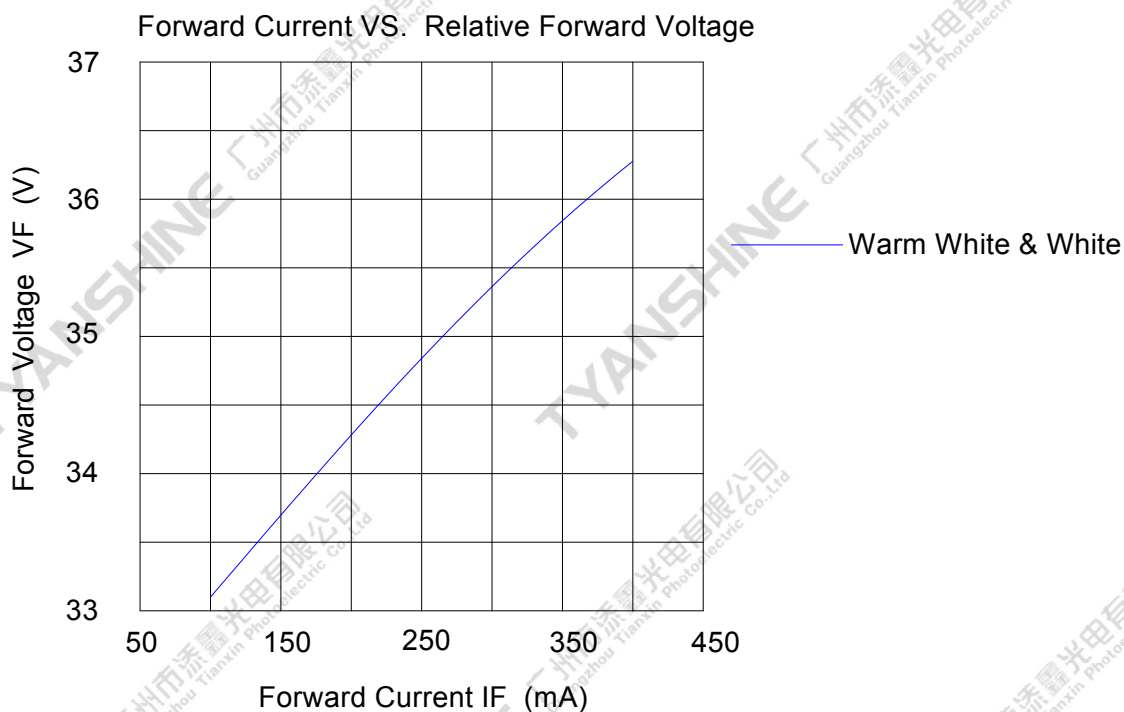
| Parameter                           | Symbol          | Condition | Emitting color | Min. | Typ. | Max. | Units   |
|-------------------------------------|-----------------|-----------|----------------|------|------|------|---------|
| Luminous Flux                       | $\Phi_v$        | If=250mA  | S              | 700  | 850  | 900  | lm      |
|                                     |                 |           | W              | 850  | 1000 | 1150 |         |
| Forward Voltage                     | $V_f$           |           | S              | 33   | 34.5 | 36   | V       |
|                                     |                 |           | W              | 33   | 34.5 | 36   |         |
| Correlated Colour Temperature       | CCT             |           | S              | 2620 | 2700 | 2780 | K       |
|                                     |                 |           | W              | 5750 | 6000 | 6300 |         |
| Viewing Angle at 50% IV             | $2\theta_{1/2}$ |           | S              | —    | 115  | —    | Deg     |
|                                     |                 |           | W              | —    | 115  | —    |         |
| Reverse Current                     | $I_R$           |           | —              | —    | —    | —    | $\mu A$ |
| Thermal Resistance Junction to Case | $R\theta_{J-C}$ |           | —              | —    | 3.7  | —    | K/W     |
| Color Rendering Index               | Ra              | S         | 90             | —    | —    | —    |         |
|                                     |                 | W         | 90             | —    | —    |      |         |

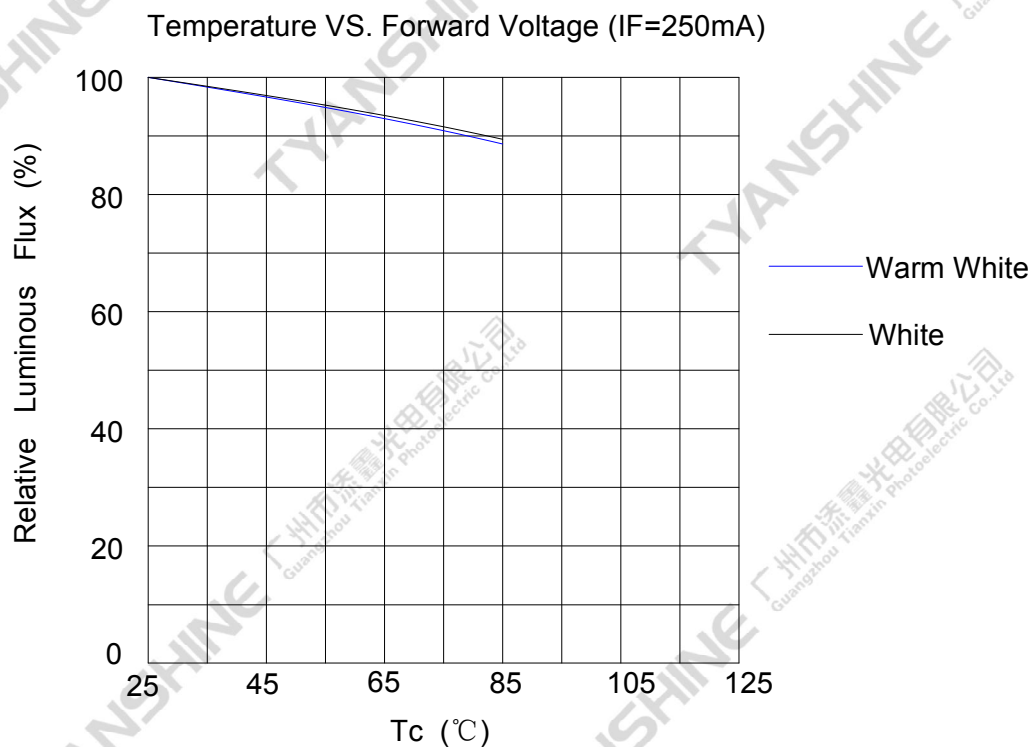
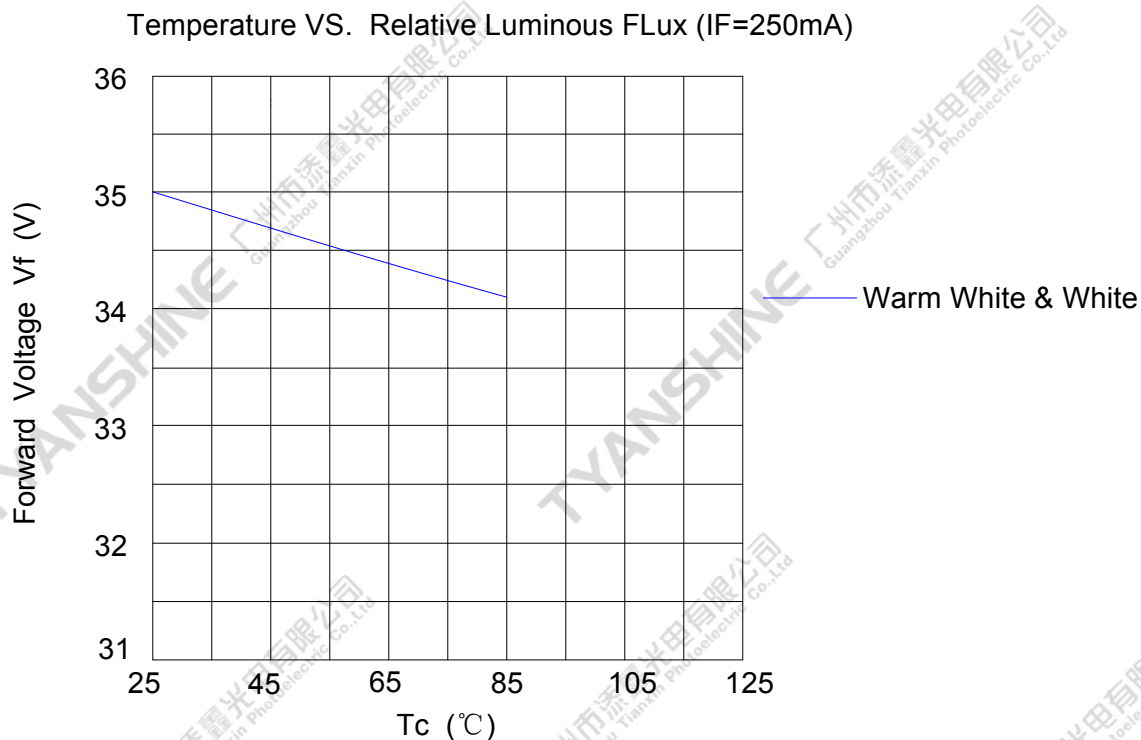
**Notes:**

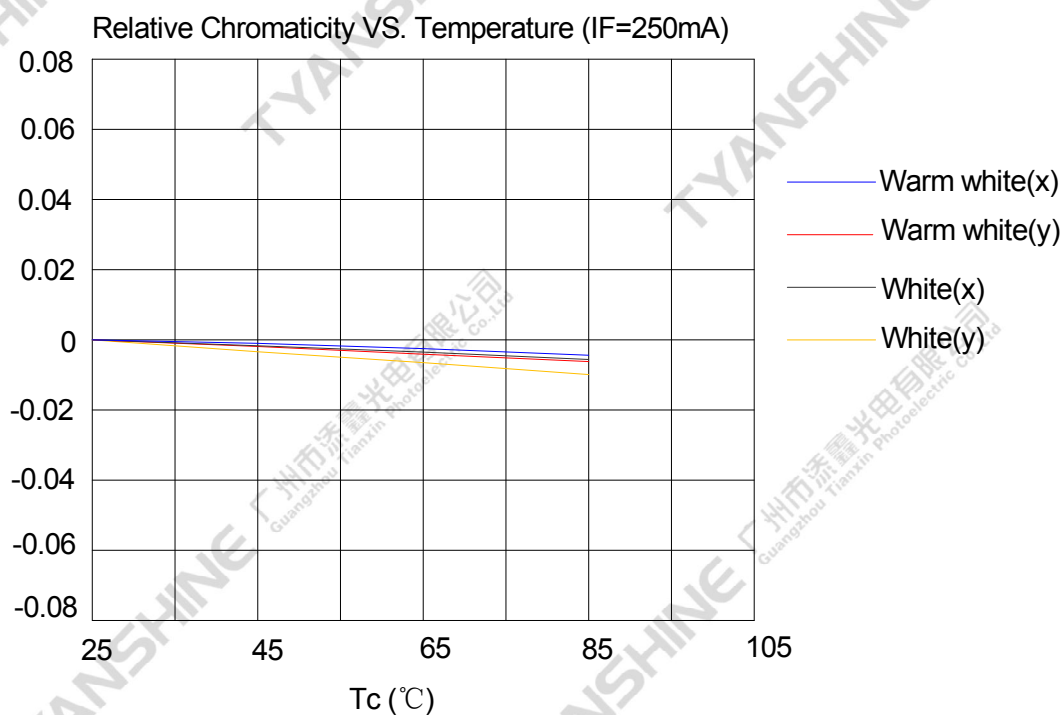
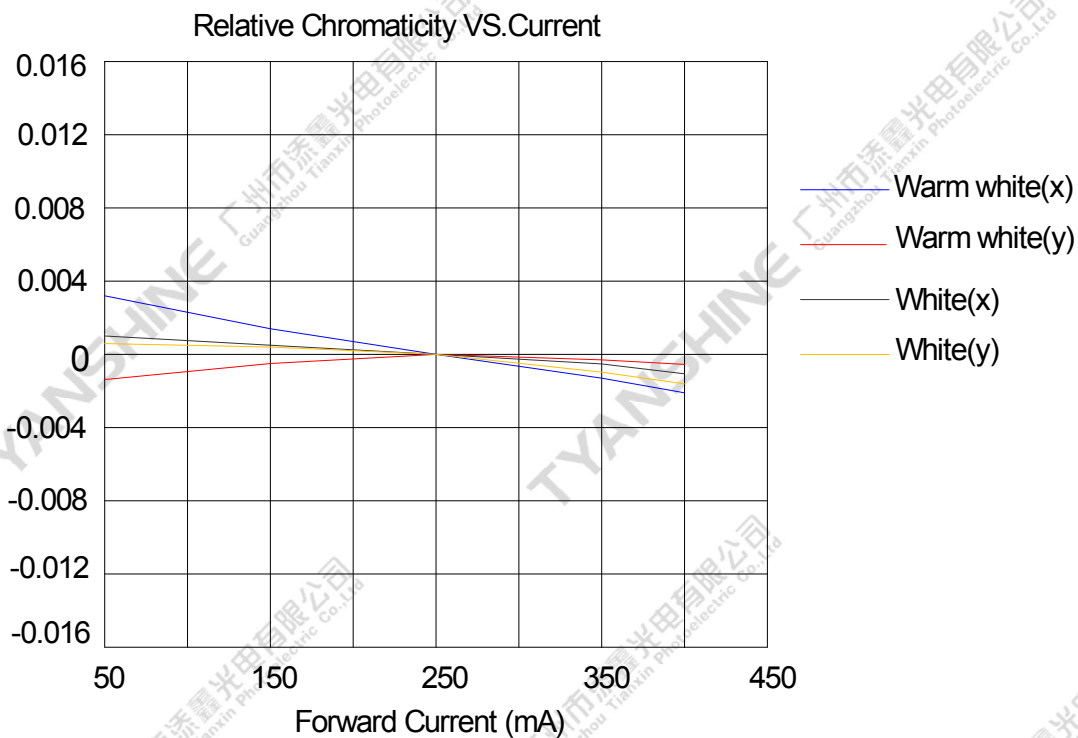
- 1.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- 3.Luminous flux measurement tolerance:±10%.
- 4.Forward voltage measurement tolerance: ±3%.
- 5.Ra measurement tolerance: ±2.

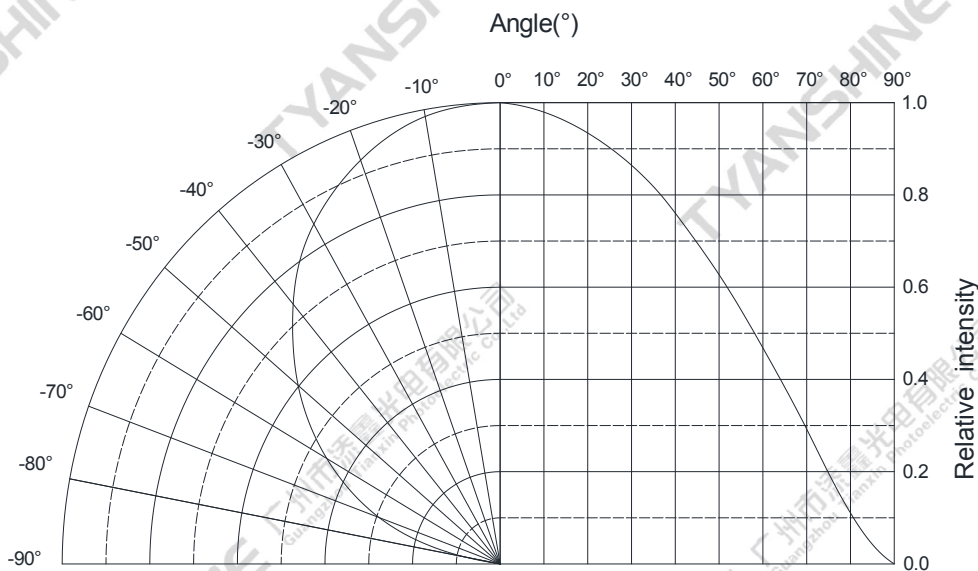
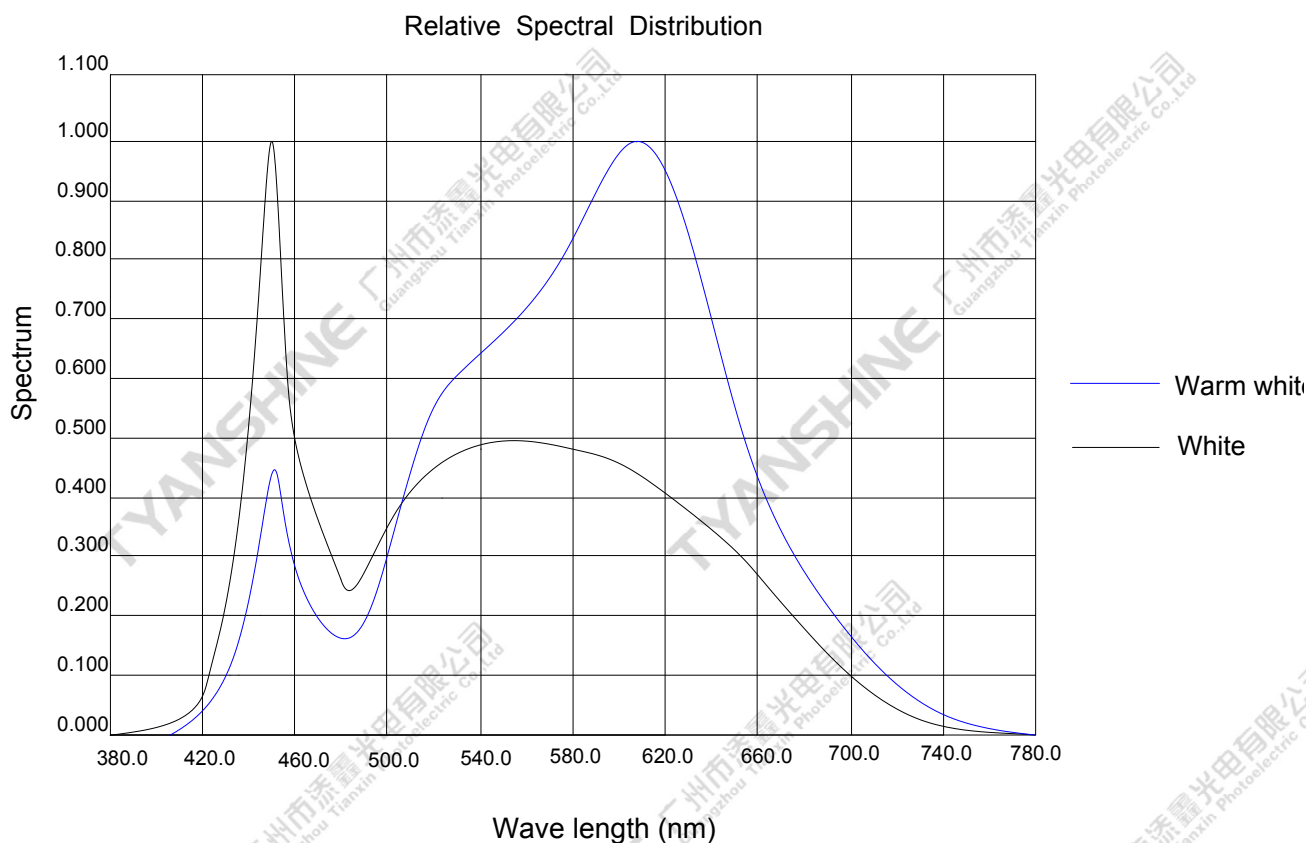
## Typical Electrical/Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)









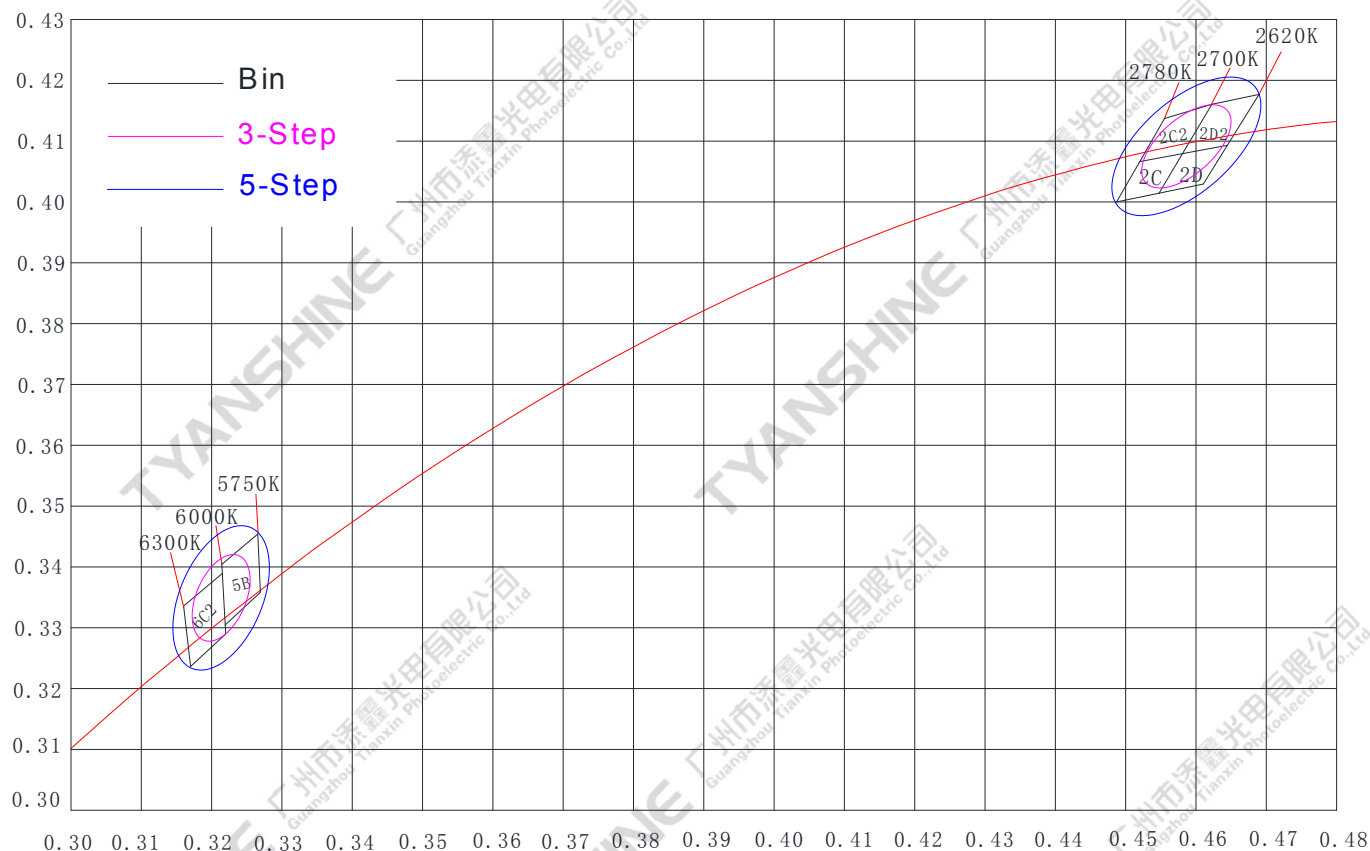
**Notes:**

1.  $2\theta_{1/2}$  is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is  $\pm 5^\circ$ .

|          |                              |          |            |      |         |
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**Chromaticity Coordinates ( Condition : IF=250mA , Tc=25°C )**



**White light Color coordinate filing (IF=250mA , Tc=25°C)**

| Region | CCT Range |       | X1     | Y1     | X2     | Y2     | X3     | Y3     | X4     | Y4     |
|--------|-----------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
|        | Min       | Max   |        |        |        |        |        |        |        |        |
| 2D2    | 2620K     | 2700K | 0.4623 | 0.4160 | 0.4690 | 0.4177 | 0.4645 | 0.4093 | 0.4581 | 0.4079 |
| 2D     | 2620K     | 2700K | 0.4581 | 0.4079 | 0.4645 | 0.4093 | 0.4610 | 0.4029 | 0.4547 | 0.4014 |
| 2C2    | 2700K     | 2780K | 0.4556 | 0.4137 | 0.4623 | 0.4160 | 0.4581 | 0.4079 | 0.4520 | 0.4066 |
| 2C     | 2700K     | 2780K | 0.4520 | 0.4066 | 0.4581 | 0.4079 | 0.4547 | 0.4014 | 0.4487 | 0.4000 |
| 5B     | 5750K     | 6000K | 0.3215 | 0.3404 | 0.3266 | 0.3454 | 0.3269 | 0.3358 | 0.3219 | 0.3305 |
| 6C2    | 6000K     | 6300K | 0.3160 | 0.3336 | 0.3215 | 0.3389 | 0.3220 | 0.3290 | 0.3170 | 0.3236 |

| CCT   | Center Point |        | 3 step     |            | 5 step     |            | Rotation Angle (°) |
|-------|--------------|--------|------------|------------|------------|------------|--------------------|
|       |              |        | Major Axis | Minor Axis | Major Axis | Minor Axis |                    |
|       | X            | Y      | a          | b          | a          | b          |                    |
| 2700K | 0.4586       | 0.4091 | 0.00834    | 0.0042     | 0.0139     | 0.007      | 48.5               |
| 6000K | 0.3213       | 0.3349 | 0.0074     | 0.0036     | 0.0123     | 0.006      | 72                 |

**Notes:**

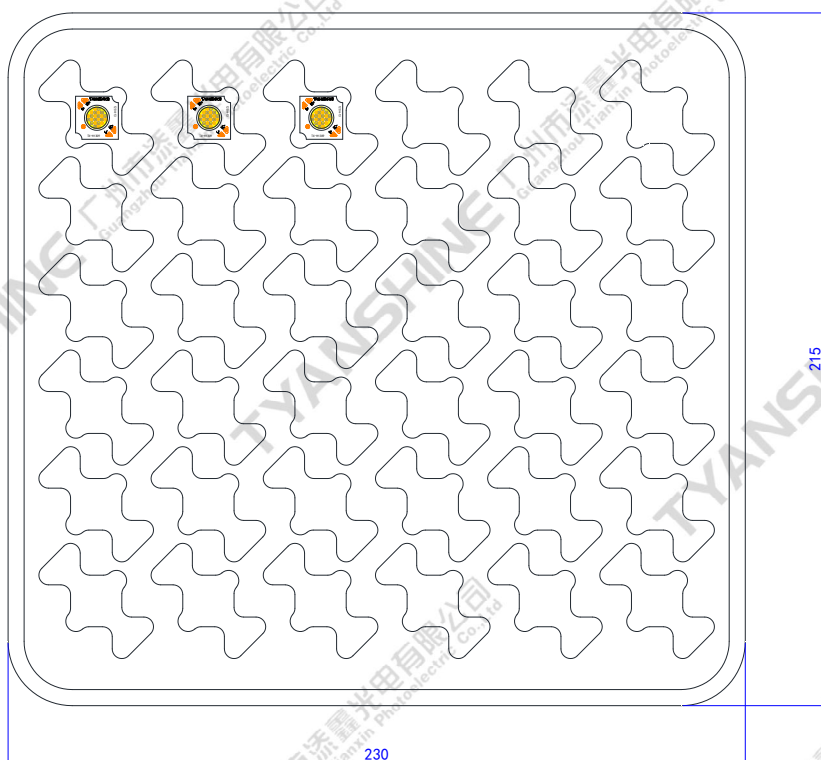
1. chromaticity (x, y) measurements tolerance:  $\pm 0.005$ .

**Reliability Test**

| Test Item                     | Test Condition                                       |
|-------------------------------|--|
| Continuous Operation Test     | IF=250mA Ta=25℃ ×1000hrs<br>IF=250mA Tc=85℃ ×1000hrs |
| Low Temperature Storage Test  | -30℃ × 1000 hours                                    |
| High Temperature Storage Test | 100℃ × 1000 hours                                    |
| Moisture-proof Test           | 85℃, 85%RH for 500 hours                             |
| Thermal Shock Test            | -40℃ × 15 minutes – 125℃ × 15 minutes, 100 cycle     |

**Dimensions For Cannulation And Packaging**

**Quantity: 36PCS**



**Notes:**

1. All dimensions are in millimeters.
2. Tolerances are  $\pm 2.0$  mm unless otherwise noted.
3. The products are packaged together with silica gel, Transport, not to the weight of welding LED light-emitting area, As a result of the weight of LED light-emitting zone in the quality of, Irresponsible of the Company.

|          |                              |          |            |      |          |
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